ABSTRACT OF THE DISCLOSURE

A taught position modification device easily correcting, in a short time, positions of taught points in a program prepared by an offline programming system. A workpiece image captured by a visual sensor and an image of a three-dimensional workpiece model having three characteristic points are displayed on a screen. Based on coordinate values of workpiece portions corresponding to the characteristic points which are specified in the workpiece image, the position and orientation of the model in a robot operating space are corrected, and also positions of taught points are corrected. When a tool end of a robot is positioned by jog feed to the operation position on a workpiece after being automatically moved to one of the corrected taught points, the taught point is modified based on the robot operating position detected at that time.